VOLUME 3. TD*X Comments on Thermaldyne, 7/30/2018 **AI Number 198467, PER20170003**

ATTACHMENT 5

- A Tank Bottoms Waste Residuals Data Summary
- B Tank Bottoms Profiles
- C Tank Bottoms Analytical, Test Reports

2018.10.05 11:07:35 -04'00'

| Parameter | F037 Listed Constituent | Listing Level | LDRUTS | Units | Sample Number | | | | | | | |
|----------------------------------|----------------------------|---------------|------------------------|----------------|--|---------------|----------|---------------|----------|---------------|----------|-------------|
| i al amerci | Constituent | Listing Level | LINK U10 | Omts | \vdash | | Г | зашрі | - IN | ambu | П | Centrifuged |
| | | | | | | | | | | | | Solids |
| | | | | | | 090054592-1 | L | 090067188-0 | | 090101989-1 | Ш | 180724 |
| | | | | | | F037, F038, | | | | | | F037, F038, |
| | | | | | | K048, K049, | | | | | | K048-K052, |
| | | | | | \perp | K051, K169 | <u> </u> | F037 | _ | F037 | | K169-K172 |
| D001-Ignitability, flash pt | - | <140 F | DEACT | - | ــــــــــــــــــــــــــــــــــــــ | Not Ignitable | <u> </u> | Not Ignitable | | Not Ignitable | | |
| D002 -Corrosivity, pH | - | <=2 - 12.5=< | DEACT | - | ـــــــــــــــــــــــــــــــــــــ | 7.7 | <u> </u> | 7.6 | | 8 | Ш | 5.6 |
| D004 - Arsenic | - | 5 mg/l | 5 mg/l | mg/l | < | 0.5 | < | 0.5 | < | 0.5 | Ш | 0.27 |
| D005 - Barium | - | 100 mg/1 | 21 mg/l | mg/l | < | 5 | < | 5 | < | 5 | Ш | 0.15 |
| D006 - Cadmium | - | 1 mg/l | 0.11 mg/l | mg/l | < | 0.1 | < | 0.1 | < | 0.1 | Ш | 0.021 |
| D007 - Chromium | - | 5 mg/l | 0.6 mg/l | mg/l | < | 0.5 | < | 0.5 | < | 0.5 | Ш | 0.024 |
| D008 - Lead | - | 5 mg/l | 0.75 mg/l | mg/l | < | 0.2 | < | 0.2 | < | 0.2 | Ш | 0.03 |
| D009 - Mercury | - | 0.2 mg/l | 0.025 mg/l | mg/l | < | 0.004 | < | 0.004 | < | 0.004 | < | 0.00013 |
| D010 - Selenium | - | 1 mg/l | 5.7 mg/l | mg/l | < | 0.1 | < | 0.1 | < | 0.1 | Ш | 0.0077 |
| D011 - Silver | - | 5 mg/l | 0.14 mg/l | mg/l | < | 0.1 | < | 0.1 | < | 0.1 | < | 0.001 |
| D018 - Benzene Note 1 | F037 | 0.5 mg/l | 10 | mg/l | < | 0.01 | < | 0.01 | _ | 0.0748 | Ш | 0.146 |
| | | ~ | | mg/kg | \perp | 0.868 | _ | 1.99 | _ | 22.1 | Ш | 46 |
| D019 - Carbon tetrachloride | - | 0.5 mg/l | 6 | mg/kg | < | 0.2 | < | 0.1 | < | 5 | < | 2.12 |
| D021 - Chlorobenzene | - | 100 mg/l | 6 | mg/kg | < | 0.2 | < | 0.1 | < | 5 | < | 2.12 |
| D022 - Chloroform | - | 6 mg/l | 6 | mg/kg | < | 0.2 | < | 0.1 | < | 5 | < | 2.12 |
| D023 - o- Cresol | - | 200 mg/1 | 5.6 | mg/kg | < | 50 | < | 20 | < | 200 | < | 16.2 |
| D024 - m- Cresol | - | 200 mg/1 | 5.6 | mg/kg | < | 50 | < | 20 | < | 200 | < | 16.2 |
| D025 - p - Cresol | - | 200 mg/1 | 5.6 | mg/kg | < | 50 | < | 20 | < | 200 | < | 16.2 |
| D026 - Cresols (Total) | - | 200 mg/1 | 11.2 | mg/kg | < | 100 | < | 40 | < | 400 | < | 32.5 |
| D027 - p-Dichloroethane | - | 7.5 mg/l | 6 | mg/kg | < | 0.2 | < | 0.1 | < | 5 | < | 2.12 |
| D028 - 1,2 Dichloroethylene | - | 0.5 mg/l | 6 | mg/kg | < | 0.2 | < | 0.1 | < | 5 | < | 2.12 |
| D029 - 1,1 Dichlorethylene | - | 0.7 mg/l | 6 | mg/kg | < | 0.2 | < | 0.1 | < | 5 | < | 2.12 |
| D030 - 2,4 Dinitrotoluene | ~ | 0.13 mg/l | 140 | mg/kg | < | 50 | < | 20 | < | 200 | < | 16.2 |
| D032 - Hexachlorobenzene | - | 0.13 mg/l | 10 | mg/kg | < | 25 | < | 10 | < | 100 | < | 16.2 |
| D033 - Hexachlorobutadiene | - | 0.5 mg/l | 5.6 | mg/kg | < | 50 | < | 20 | < | 200 | < | 16.2 |
| D034 - Hexachloroethane | - | 3 mg/l | 30 | mg/kg | < | 50 | < | 20 | < | 200 | < | 16.2 |
| D035 - Methyl Ethyl Ketone | - | 200 mg/1 | 36 | mg/kg | < | 0.4 | < | 0.2 | < | 10 | < | 53.1 |
| D036 - Nitrobenzene | - | 2 mg/l | 14 | mg/kg | < | 50 | < | 20 | < | 200 | < | 16.2 |
| D037 - Pentachlorophenol | - | 100 mg/l | 7.4 | mg/kg | < | 25 | < | 10 | < | 100 | < | 32.7 |
| D038 - Pyridine | - | 5 mg/l | 16 | mg/kg | < | 50 | < | 20 | < | 100 | < | 32.7 |
| D039 - Tetrachloroethylene | - | 0.7 mg/l | 6 | mg/kg | < | 0.2 | < | 0.1 | < | 5 | < | 2.12 |
| D040 - Trichloroethylene | | 0.5 mg/l | 6 | mg/kg | < | 0.2 | < | 0.1 | < | 5 | < | 2.12 |
| D041 - 2,4,5 Trichlorophenol | | 400 mg/1 | 7.4 | mg/kg | < | 50 | < | 20 | < | 200 | < | 16.2 |
| D042 - 2,4,6 Trichlorophenol | | 2 mg/l | 7.4 | mg/kg | < | 50 | < | 20 | < | 200 | < | 16.2 |
| D043 - Vinyl Chloride | | 0.2 mg/1 | 6 | mg/kg | < | 0.2 | < | 0.1 | < | 5 | < | 2.12 |
| Acenaphthene | F037 | | 3.4 mg/kg | mg/kg | < | 50 | < | 20 | < | 200 | Н | 65.3 |
| Anthracene | F037 | _ | 3.4 mg/kg | mg/kg | < | 50 | < | 20 | < | 200 | Н | 49.9 |
| Benzo (a) anthracene | F037 | _ | 3.4 mg/kg | mg/kg | < | 25 | < | 10 | < | 100 | Н | 24.5 |
| Benzo (a) pyrene | F037 | - | 3.4 mg/kg | mg/kg | 2 | 25 | < | 10 | < | 100 | Н | 9.34 |
| bis (2-ethylhexyl) Phthalate | F037 | - | 28 mg/kg | mg/kg mg/kg | - | 50 | < | 20 | < | 200 | Н | 5.63 |
| Chrysene | F037 | _ | 3.4 mg/kg | mg/kg mg/kg | H | 39 | È | 10.2 | < | 100 | \vdash | 47.1 |
| Onrysene Di-n-butyl-phthalate | F037 | - | 28 mg/kg | mg/kg mg/kg | - | 50 | < | 20 | < | 200 | < | 16.2 |
| Ethylbenzene | F037 | - | 28 mg/kg 10 mg/kg | mg/kg mg/kg | \vdash | 0.689 | - | 1.33 | - | 58.3 | \vdash | 58.0 |
| X | F037 | | 3.4 mg/kg | | - | 50 | < | 20 | - | 200 | \vdash | 149 |
| Fluorene Nantthalana | F037 | - | 5.4 mg/kg 5.6 mg/kg | mg/kg | + | | < | 20 | \vdash | 200 | \vdash | 471 |
| Naphthalene Phonontheone | F037 | - | | mg/kg | +- | 67.3 66.7 | - | | \vdash | 201 | \vdash | |
| Phenanthrene Phonal | F037 | - | 5.6 mg/kg | mg/kg | + | | < | 23.1 20 | < | 200 | \vdash | 266 |
| Phenol | | - | 6.2 mg/kg 8.2 mg/kg | mg/kg | 1 | 50 | < | 20 | < | | \vdash | 21.9 |
| Pyrene | F037 | - | | mg/kg | 15 | 50 | < | | < | 200 | \vdash | 131 |
| Toluene | F037 | - | 10 mg/kg | mg/kg | \vdash | 5.09 | ├- | 0.789 | ├- | 102 | \vdash | 145 |
| Xylenes | F037 | - | 30 mg/kg | mg/kg | +- | 61.7 | - | 6.63 | - | 342 | \vdash | 235 |
| Cyanides | F037 | - | 590 mg/kg | mg/kg | | 0.05 | < | 0.05 | < | 0.05 | \vdash | 0.251 |
| Lead | F037 | - | N/A | mg/kg | + | 109 | - | 135 | <u> </u> | 63 | \vdash | 282 |
| Nickel | F037 | - | 11 mg/1 | mg/l | < | 1 | < | 1 | < | 1 | \vdash | 4.2 |
| Carbon Disulfide | - | - | N/A | mg/kg | < | 0.4 | _ | - | - | - | < | 5.31 |
| 2,4-Dimethylphenol | - | - | N/A | mg/kg | < | 50 | < | 20 | <u> </u> | - | < | 32.7 |
| Benzo (g,h,i) perylene | - | - | 1.8 mg/kg | mg/kg | < | 50 | < | 20 | L | - | Ш | 5.63 |
| Dibenz (a,h) anthracene | | - | 8.2 mg/kg | mg/kg | | - | _ | - | L | - | < | 3.27 |
| Indeno (1,2,3,cd) pyrene | - | - | 3.4 mg/kg | mg/kg | \perp | - | L | - | L | - | < | 3.27 |
| Vanadium | - | - | 1.6 mg/l | mg/l | \perp | - | | - | L | - | < | 0.15 |
| Antimony | | I . | 1.15 mg/l | mg/l | | - | 1 | - | | _ | < | 0.18 |

Note 1. TCLP Benzene results from TestAmerica Lab Report 490-156147-1

Note 2. All results for Centrifuged Solids 180724 from TestAmerica 490-156147-1 and 560-74858-1



US Ecology Nevada (Beatty)
US Ecology Idaho (Grandview)
US Ecology Texas (Robstown)
US Ecology Michigan (Detroit)

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PROFILE # 090054592-1

| AMMOIE \ MINITIME LIONI | 80 0 0 00 8 8 8 8 9 5 E | | | | | ······ |
|--|---|--|---|--|----------------------------------|---|
| A. CUSTOMER INFORMATION | | | | | [W] on which the | |
| 1. Generator | | | Billling Information | same | X P.O. required fo | or payment |
| 2. Facility Address: | | 1 | 2. Billing Company: | | | |
| 3. Mailing Address: | | 1 | 3. Billing Address: | | | ••••• |
| 4. City/State/Zip | | 1 | 4. City/State/Zip: | | | ····· |
| 5, Technical Contact: | | 1 | 5. Billing Contact: | | | 200000000000000000000000000000000000000 |
| 6. Phone: | 7, Fax: () ^ | 1 | 6, Phone: | | 17. Fax: | |
| 8. Generator Status : VSQG/ | CESQG [] SQG, | X LQG 1 | 8. Email: | | | |
| 9. EPA ID# | | 10. Stat | e ID# | | | |
| 11, NAICS/SIC Codes: 324110 | | | | | | |
| B. SHIPPING INFORMATION | | | | | | |
| 1. US DOT Shipping Name: HAZA | RDOUS WASTE, SOL | ID, N.O.S. | | | | |
| 2. Hazard Class: | 3, UN/NA #: N/ | *************************************** | 4, Packaging | Group: PG III | S, RQ: | |
| 5. Container Type: X Bulk | | Pallet | Bags Drums | Boxes | Other, Describe | 1 |
| | hand 6 | Month | | Describe?: | | |
| 7. Frequency: X Year | LJ Win | | <u> </u> | | ite Import: Ye | s No |
| 8. Shipment Size: 0 | | Quantity: 25 | 0.00 | If yes, | omplete Waste Impor | t Supplement |
| C. GENERAL MATERIAL & REG | ULATORY INFORM | MATION | | | | |
| 1. Common Name: | | | IRES TREATMENT)(129 | (OIL) | | |
| | I IFTEN OFF | NEBV WACTES EF |)37, K048/49/51 | | | |
| 2. Process Generating: | tioner area | Arte Aburen | 231,100,001,001,00 | | | |
| | | ***** | | | | |
| 3. Describe Physical Appearance: | BLACK SLUE | IGE - DEWATERE | D | | | |
| | | | | | | |
| 4, Odor: | None X Slight | Strong | 5. Physical State: | Liquid (| Sludge/Slurry | Solid Solid |
| 6. Describe Color: | | ······································ | 7. Liquid phases: | Single | Double Layer | Multi-layer |
| | Lab Analysis | □N | ISDS | X Process/Ge | nerator Knowlege | |
| 9. Waste/Material Type (US Ecol | ······································ | only): X | N/A 🔲 I | ndustrial | ☐ Non-Ind | ustrial |
| 10. Restricted under EPA Land Di | ***** | | X Yes | No No | | |
| y correg | | Non-Wastewate | r Debris(§268 | 1.2) 12. Alt. S | tandards for soli? | Yes X No |
| nharred ASTS letastem advant | us waste containing | benzene and or | iginating at a Petroleu | m Refinery (SIC 29 | 11), | X Yes No |
| Chemical Manufacturing Plan (If "Yes" complete Benzene V | u (SIC 2800 thru 289 | 91 or Coke by-or | oduct kecovery riam i | 31F 237Y1 | | ALKES NO |
| | | | | | | \$1000 2000 V |
| | | 2500ppmw 1 | S. Has it been treated | after point of gen | eration? | X Yes No |
| 16. CERCLA Regulated (Superfun- | (<500 ppmw | 2500ppmw 1 | 5. Has it been treated 7. Butadiene waste rep | after point of gen | eration? | |
| 16. CERCLA Regulated (Superfundamental) 18. Waste contains UHC constitut | (| ≥S00ppmw 1 Yes X No 1 ove a treatment | 5. Has it been treated 7. Butadiene waste re | after point of general subsets of the second | eration? opart XX: | X Yes No |
| 18. Waste contains UHC constitue | <500 ppmw | ≥500ppmw 1 Yes X No 1 ove a treatment Section D): | 5. Has it been treated 7. Butadiene waste rep standard, other than t | after point of gen gulated by §63 Sul hose for which th | eration? opart XX: | X Yes No Yes X No |
| 18. Waste contains UHC constituexhibits a characteristic. (If "\ 19. Waste exempt from definition | (]<500 ppmw] d) Waste] ent(s) (§268.48), ab yes", list all UHC's In n of "solid waste" or | ≥500ppmw 1 Yes X No 1 ove a treatment Section D): | 5. Has it been treated 7. Butadiene waste rep standard, other than t | after point of gen gulated by §63 Sul hose for which th | eration? opart XX: | X Yes |
| Waste contains UHC constitue whibits a characteristic. (If ") Waste exempt from definition State Waste Codes | (]<500 ppmw []; d) Waste [] lent(s) (§268.48), ab yes", list all UHC's in n of "solid waste" or 9019409H | ≥500ppmw 1 Yes X No 1 ove a treatment Section D): | 5. Has it been treated 7. Butadiene waste rep standard, other than t | after point of gen gulated by §63 Sul hose for which th | eration? opart XX: | X Yes No |
| 18. Waste contains UHC constitue whibits a characteristic. (If "19. Waste exempt from definition | (]<500 ppmw] d) Waste] ent(s) (§268.48), ab yes", list all UHC's In n of "solid waste" or | ≥S00ppmw 1 Yes X No 1 ove a treatment Section D): "hazardous was | 5. Has it been treated 7. Butadiene waste rep standard, other than t te" (If "Yes", list refere | after point of geni gulated by §63 Sul hose for which th nce 40CFR | eration? opart XX: e waste | X Yes |
| Waste contains UHC constitue whibits a characteristic. (If ") Waste exempt from definition State Waste Codes | (]<500 ppmw []; d) Waste [] lent(s) (§268.48), ab yes", list all UHC's in n of "solid waste" or 9019409H | ≥S00ppmw 1 Yes X No 1 ove a treatment Section D): "hazardous was | 5. Has it been treated 7. Butadiene waste rep standard, other than t te" (If "Yes", list refere | after point of geni gulated by §63 Sul hose for which th nce 40CFR | eration? opart XX: e waste | X Yes |

| D. COMPOSITION Values are: X TCLP X 7 | TOTALS | | | | Range tota | 1 > 100% |
|---|-----------------|---|---|-------------------------|---|---------------------|
| Constitue | | | Units | Typical | Min | Max |
| souds | | | % | 43 | 40 | 50 |
| WATER | | | % | 43 | 40 | 50 |
| | | | % | 0.1 | 0 | 1 |
| HYDROCARBONS | | | % | 12 | 10 | 15 |
| OIL | | | | 26 | 0 | 15 |
| CHRYSENE | | | PPM | | | - |
| Di(2-ethylhexyl) phthalate | | | PPM | | 0 | 30 |
| Ethylbenzene | | | PPM | 0.05 | 0 | 0.603 |
| Pyrene | | | PPM | | 0 | 8.03 |
| Toluene | | | PPM | 0.05 | 0 | 0.219 |
| Nickel | | | PPM | 1 | 0 | 2.7 |
| Xylene (mixed isomers) | | | PPM | 0.05 | 0 | 0.75 |
| E. CHARACTERISTICS | | | | | , | |
| 1. Oxidizer Yes | | 9. Reactive Sulfides | ppm | | r | Yes X No |
| 2. Explosive Yes | | 10. Reactive Cyanide | *************************************** | | ľ | Yes X No |
| 3. Organic Peroxide Yes X No 11. Water/Air Reactive Yes X No | | | | | | |
| 4. Shock Sensitive Yes | X No | 12. Thermally Unstat | | | <u>_</u> | Yes X No |
| | | | | | | series Series |
| 6. Pyrophoric Yes | X No | 14. Medical/Infection | *************************************** | | | Yes X No |
| 7. Compressed Gases Yes | X No | 15. Radioactive (If) | es, complete Profile S | upplement for Radio | octive Waste) | Yes X No |
| 8. Halogenated Organics Yes | No X | | | | *************************************** | |
| 16. Hazardous Secondary Materiai? | | | | | | Yes (X) No |
| 17. Possibility of incidental liquids from | transporatio | on? Yes | X No | | | |
| 18. Is waste/material a solid using the p | aint filter te | st? Yes (| solid) 🛛 🗓 No (r | ot solid) | ······ | |
| 19. pH (If solid, what is pH if mixed with w | uter?) Ra | inge <u>5.00</u> to <u>9.00</u> | Yypical 7.6 | 00 | | |
| 20. Flash Point 200 °F | | < 140° F | | | | |
| 21. Is the waste/material oil bearing fro | m Petroleur | n Refining, Production | or Transportation prac | ctices? | N/A X | Yes No |
| F. GEN ERATOR'S CERTIFICATION | | | | | | |
| | | nay be disposed of witi | , | ···· | | |
| CFR 260.43 and/c | ir lam comi | neets all requirements plying with the condition | ns for generators usir | ng the verified recyc | ler exclusion. | |
| I authorize US Ecology to correct inconsister US Ecology will require re-submittal of the w conform to specifications described in this p | /aste/materia | l profile information if sul | ostantial changes are det | termined necessary. I t | inderstand waste/n | raterial that does |
| I certify, under penalty of law, that I am fam accurate, representative and complete, that instructions provided. | iliar with this | waste/material stream ti | rrough analysis and/or p | rocess knowledge, and | d that all informatio | n provided is true, |
| | Signature | | | Title | | Date |
| | | | | | | 1/2/16 |

| D. MATERIAL | COMPOSITION | I CONTINUED | | | | Waste Stree | ım: 090054592-1 | | |
|---|-------------|-------------|--------------------------|-------|---------|-------------|-----------------|--|--|
| Values are: | X TOLP | X TOTALS | OTALS Range total ≥ 100% | | | | | | |
| ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | ` | onstituent | | Units | Typical | Min | Max | | |
| Chromium | | | | PPN | 0.03 | 0 | 0.05 | | |
| Benzene | | | | PPM | 11 | 0 | 20 | | |
| Naphthalane | | | | РРМ | 5 | 0 | 12.3 | | |
| BENZO(A)PYRE | NE | | | PPM | 15 | 0 | 30 | | |



WASTE/MATERIAL PROFILE FORM

BENZENE WASTE OPERATIONS SUPPLEMENT (BWON 40 CFR Part 61 Subpart FF)

This form must be completed for all hazardous waste/material containing benzene originating at a Petroleum Refinery (SIC 2911), Chemical Manufacturing Plant (SIC 2800 thru 2899) or Coke by-Product Recovery Plant (SIC 3312).

| A. GENERATOR INFORMATIO | V | | | | | | |
|--|---|--|---|--|--|--|--|
| Name of Originating Facility: | EP | A Generator #: | | | | | |
| | TERED SLUDGE (REQUIRES TREATMENT) | 12% OIL) | | | | | |
| | LISTED REFINERY WASTES F037, K048/49 | | | | | | |
| Process Reversiting the Maste/Linaterial: | LISIED RETRIGENT VVASIES FUST, NOTO/7: | | | | | | |
| Type of Facility: | Refinery (SIC 2911) | Coke by-products recove (SIC 3312) | rry Chemical manufacturing (SIC 2800 thru 2899) | | | | |
| Facility Total Annual Benzene Status (TA | B): | 21 but <10 Megagram | X ≥10 Megagram | | | | |
| is the waste/material being transferred | to US Ecology for offsite treatment comp | lance with 40 CFR Part 61.342 | (f)? Yes X No* | | | | |
| By Indicating "Yes", notice is provided that the waste/material referenced in this profile is subject to 40 CFR Part 61 Subpart FF (National Emission Standards for Benzene Waste Operations). All shipments under this profile are being transferred to US Ecology for the destruction or removal of benzene in accordance with 40 CFR Part 61.342 (C)(1)(i). | | | | | | | |
| B. CHARACTERISTICS | | | | | | | |
| The flow-weighted annual average benzene ((Benzene concentration data must be total or | content by weight or process turnaround total oncentration by weight. DO NOT USE TCLP CO | concentration of this waste/mate VCENTRATIONS.) | rialis: 11 ppmw | | | | |
| The weighted average water content is? | |] >10% | | | | | |
| Is this Process Unit Turnaround waste/ | material? Yes 🔀 |] No | | | | | |
| *Only if you answered "No" for offsite t | reatment compilance above, please supp | ly the following: | | | | | |
| Range of benzene total concentration: | 0 to <u>15</u> ppmw | | | | | | |
| This waste/material is classified as: | Process wastewater stream | Product tank drawdown | | | | | |
| • | Landfill leachate | None of the three | | | | | |
| C. CERTIFICATION | | | | | | | |
| I certify under penalty of law that I am familiar with the waste/material stream through analysis and/or process knowledge, and that all information provided is true, accurate, representative and complete, and that this form was completed in accordance with the instructions provided. | | | | | | | |
| Print Name | Signature | Title | Date | | | | |
| | | | 112/18 | | | | |



U.S. ECOLOGY TEXAS, INC.

PROFILE #

090054592-1

WASTE/MATERIAL PROFILE FORM

THERMAL SUPPLEMENT

This form must be completed for all waste/material processed by US Ecology's Oil Reclamation Facility.

Oil bearing hazardous waste from petroleum refining, production or transportation practices will be recycled to generate a RCRA excluded fuel. Petroleum refining wastes/materials are those generated by processes engaged in producing hydrocarbon products such as gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, etc., through fractionation or straight distillation of crude oil, redistillation of unfinished petroleum derivatives, including cracking, gasification or other processes. This industry also produces aliphatic and aromatic chemicals as by-products. Waste/material generated through petroleum and natural gas production and transportation practices supporting this industry, such as crude petroleum extraction, transportation and bulk storage of petroleum products, natural gas extraction, transmission, distribution and storage will also be recycled to generate a RCRA excluded fuel.

Hazardous Secondary Materials (HSM) having similar chemical properties as petroleum refining wastes will also be recycled. Hazardous wastes not meeting the above criteria will be disposed, with the recovered oil being managed at an offsite RCRA TSDF

| A. GENERATOR INFOR Name of Originating Facility: | | | | |
|--|---|--|-------------------------------|---|
| Name of Generator: | | EPA Ge | nerator#: | |
| Waste/Material Stream Name | . DEWATERED SI | UDGE (REQUIRES TREATMENT)(12% OIL) | | |
| | . Incassiring | Charte transference commentativament | | . 17 |
| B. CHARACTERISTICS | | 2 A. A. A. A. Tongan della vinetta francheriyin vi | | Yes World |
| is the waste/material oil bear is the waste/material RCRA ex | | Fining, Production or Transportation practices (see description at | 7.79 (1) | Yes X No |
| is the waste/material nunn ex | Ciuce massiquis sei | ed patroleum refining OBHW, are the oil constituents fuel thems | elves? | Yes X No |
| The Petroleum Refining lister | | | | |
| | X Waste Code associa | | ······ | *************************************** |
| X F037 X F038 K052 X K169 | K170 | Second Second | ning Listed Waste Code | Applies |
| | | please provide a detailed description of the process generating | | |
| C. COMPOSITION | | | | |
| PRIMARY COMPONENTS | TYPICAL % (Should total 100%) | PROPERTIES (wet weight | basis) | |
| Water | 43 | | | *************************************** |
| Solids (excluding Organics/Oil/TPH) | 43 | PHYSICAL STATE | Heating Value Btu/Lb | 2500 |
| Organics /Oil/TPH | 12 | X Solid Liquid Single Phased Multi-Phased | % of ASH | |
| Specific Constituer | ıts (ppm) | Reclamation Facility Coordination Q | uestions | |
| Halogens* | 0 | Yes X No Contains Non-Friable Debris Material > 2-inch size | e7 If yes, | % vc |
| Mercury | 0 | Yes X No If Catalyst, does material posses self heating prop | erties? | |
| | | | | <i>ب</i> ه |
| SVM (Pb, Cd) | 0 | Yes X No Contains Bitumen / Asphalt / Tar > 1% (wt.)? If ye | S, | 76 VE |
| SVM (Pb, Cd) LVM (As, Be, Cr) | 0 | Yes X No Contains Bitumen / Asphalt / Tar > 1% (wt.)? If ye X Yes No Has the material been processed by a centrifuge | | 36 AE |
| | | X Yes No Has the material been processed by a centrifuge | | |
| LVM (As, Be, Cr) | 0 | X Yes No Has the material been processed by a centrifuge | prior to shipment? | • |
| LVM (As, Be, Cr) Organic Chlorine from VOCs Sulfides (total) D. CERTIFICATION | 0 0 | X Yes | prior to shipment? (thanol | ppn |
| LVM (As, Be, Cr) Organic Chlorine from VOCs Sulfides (total) D. CERTIFICATION | 0 0 0 | X Yes | prior to shipment? (thanol | ppn |
| LVM (As, Be, Cr) Organic Chlorine from VOCs Sulfides (total) D. CERTIFICATION | 0 0 0 I am familiar with the v | X Yes | prior to shipment? (thanol | % vo |

uS Ecology Texas (Robstown)

usencs@usecology.com useics@usecology usetcs@usecology.com usemcs@usecology.com

PROFILE # 090067188-0

| WASTE / MATERIAL PROI | FILE FORM | US Ecology M | ichigan (De | troit) u | isemcs@usecolc | gy.com | | |
|---|---|---|---------------|--------------------------------------|---|--|---|--|
| A. CUSTOMER INFORMATIO | V | | | | | | | |
| 1. Generator | | | Billling | information | is same | X P.O. requir | ed for payment | |
| 2. Facility Address: | | | 12. Billing | Company: | | | *************************************** | |
| 3. Mailing Address: | | | 13. Billing | Address: | | | | |
| 4. City/State/Zip | | | 14. City/St | ate/Zip: | | | | |
| 5. Technical Contact: | | | 15. Billing | Contact: | | | | |
| 6. Phone: | 7. Fax: | | 16. Phone | | | 17. | Fax: | |
| 8. Generator Status : VSQG | /CESQGSQG | , 🗓 LQG | 18. Email: | ************************************ | *************************************** | | : | |
| 9, EPA ID# | | 10. St | ate ID# | | | ···· | | |
| 11. NAICS/SIC Codes: 324110 | | | | | | | | |
| B. SHIPPING INFORMATION | | | | | | | | |
| 1. US DOT Shipping Name: HAZ | ARDOUS WASTE, SO | DLID, N.O.S. | | | | | | |
| 2. Hazard Class: 9 | 3. UN/NA#: 1 | VA3077 | | 4. Packagin | g Group: III | 5, R | Q: 10,00 | |
| 6. Container Type: X Bul | C Totes | Pallet [|] Bags | Drums | ☐ Boxes | Other, Desc | ribe: | |
| 7. Frequency: 🔲 Yea | r 🗌 QTR | Month |] 1 Time | X Other | Describe?: per | lodic | | |
| 8. Shipment Size: 30 to | ns | Quantity: | 25.00 | | | aste Import: [s, complete Waste In | Yes No | |
| C. GENERAL MATERIAL & REC | JULATORY INFOR | MATION | • | | | | | |
| 1. Common Name: | PRIMARY S | LUDGE | | | | | : | |
| 2. Process Generating: | 2. Process Generating: REFINERY WASTE WATER TANK CLEANOUT | | | | | | | |
| 3. Describe Physical Appearance | : MUDDY OI | LY SOLIDS | | | | | | |
| 4. Odor: | None X Sligh | t Strong | 5. Phys | ical State: | Liquid | X Sludge/Slurr | y Solid | |
| 6. Describe Color: VARIES | 000000000000000000000000000000000000000 | *************************************** | 7. Liqu | ld phases: | Single | Double Laye | r Multi-layer | |
| 8. Knowledge is from: X | Lab Analysis | | /ISDS | | X Process/G | enerator Knowleg | 2 | |
| 9. Waste/Material Type (US Ecol- | ogy Texas custome | s only): X | N/A | In | ndustrial | Non- | ndustrial | |
| 10. Restricted under EPA Land Di | sposal Restrictions | (§268): | | X Yes | □ No | | | |
| 11. If LDR "Yes": Was | ewater X | Non-Wastewate | :r 🗍 | Debris (§ 268 | .2) 12. Alt. | Standards for solli | Yes 🗶 No | |
| Is the material RCRA hazardo Chemical Manufacturing Plan (If "Yes" complete Benzene W | t (SIC 2800 thru 28 | 99) or Coke by-pi | roduct Reco | very Plant (S | SIC 3312)? | | X Yes No | |
| 14. VO Conc.(§264.1083) : | <500 ppmw X | ≥500ppmw 1 | L5. Has it be | en treated a | ifter point of ger | eration? | Yes X No | |
| 16. CERCLA Regulated (Superfund | l) Waste | Yes X No 1 | l7. Butadiei | ie waste regi | ulated by §63 Su | bpart XX: | Yes X No | |
| 18. Waste contains UHC constitu exhibits a characteristic. (if "y | | | standard, | other than th | nose for which th | ie waste | Yes 🗶 No | |
| 19. Waste exempt from definition | of "solid waste" o | r "hazardous was | ite" (If "Yes | ', list referen | ce 40CFR | | Yes X No | |
| 20. State Waste Codes | 0014695H | | | | | | | |
| 21. RCRA Waste Codes | F037 | | | | | | | |
| | : | *************************************** | | | | | | |
| 22. Source Code: G13 | 23. Form Code: | W609 | 24. Mar | nagement Co | ode: H039 | (USE only) | | |

| D COMPOSITION DocuSign Envelope ID: 4639766C-7ED1-4FF3-B Values are: TCLP X TOTALS | 71 ^p | | | Range tot | al ≥ 100% | |
|---|--|--------------------------|----------------------|---|-----------|--|
| Constituent | | Units | Typical | Min | Max | |
| OILY SLUDGE AND SOLIDS | | % | 100 | 0 | 0 | |
| Ethylbenzene | | MG/KG | 3.2 | 0 | 0 | |
| Toluene | | MG/KG | 1.4 | 0 | 0 | |
| Xylene (mixed isomers) | MG/KG | 57 | 0 | 0 | | |
| Benzene | MG/KG | 4.38 | 0 | 0 | | |
| CYANIDE ND <1.76MG/KG | | | 0 | 0 | | |
| OIL | | % | 5 | 0 | 0 | |
| BENZ(A)ANTHRACENE | | MG/KG | 71 | 0 | 0 | |
| BENZO(A)PYRENE | | MG/KG | 53 | 0 | 0 | |
| CHRYSENE | | MG/KG | 140 | 0 | 0 | |
| Naphthalene | | MG/KG | 63 | 0 | 0 | |
| E. CHARACTERISTICS | | | | | | |
| 1. Oxidizer Yes X No | 9. Reactive Sulfides | ppm | | | Yes X No | |
| 2. Explosive Yes X No | 10. Reactive Cyanide: | s ppm | | | Yes X No | |
| 3. Organic Peroxide Yes X No | 11. Water/Air Reactiv | e | | | Yes X No | |
| 4. Shock Sensitive Yes X No | 12. Thermally Unstab | le | | | Yes X No | |
| 5. Tires Yes X No | 13. TSCA Regulated PCB Waste (control sheet required with shipment) Yes X No | | | | | |
| 6. Pyrophoric Yes 🕱 No | 14. Medical/Infectiou | s Waste | | | Yes X No | |
| 7. Compressed Gases Yes X No | 15. Radioactive (If y | es, complete Profile Si | upplement for Radio | active Waste) | Yes X No | |
| 8. Halogenated Organics Yes X No | | | | | | |
| 16. Hazardous Secondary Material? | | | | [| Yes X No | |
| 17. Possibility of incidental liquids from transporat | on? Yes | X No | | | | |
| 18. Is waste/material a solid using the paint filter t | est? X Yes (: | solid) 🔲 No (n | ot solid) | | | |
| 19. pH (If solid, what is pH If mixed with water?) | ange <u>6.00</u> to <u>8.50</u> | Typical | | | | |
| 20. Flash Point 212 °F | < 140° F | | | | | |
| 21. Is the waste/material oil bearing from Petroleu | m Refining, Production o | or Transportation prac | tices? | N/A X | 'es No | |
| F. GENERATOR'S CERTIFICATION | | | | | | |
| Yes X No I certify this waste/material | may be disposed of with | out further treatment | t. | | | |
| Yes X N/A I certify this waste/material CFR 260.43 and/or I am com | • | | | | ider 40 | |
| I authorize US Ecology to correct inconsistencies on the US Ecology will require re-submittal of the waste/materi | | | • | | | |
| conform to specifications described in this profile may b | e rejected by US Ecology un | less other contractual a | rrangements have bee | n agreed to by both | parties. | |
| I certify, under penalty of law, that I am familiar with thi accurate, representative and complete, that all known o instructions provided. | | | | | | |
| Printed Name Signature | | I | ïtle | | Date | |
| | | | | *************************************** | STATES | |

| D MATERIAL COMPOSITION CONTINUED DocuSign Envelope ID: 4639765C-7ED1-4FF3-B71F 931447 Values are:TCLPX_TOTALS | FD00 | | Waste Stream: 09006/186- Range total ≥ 100% | | |
|---|-------|---------|--|-----|--|
| Constituent | Units | Typical | Min | Max | |
| Phenanthrene | MG/KG | 190 | 0 | 0 | |
| Pyrene | MG/KG | 150 | 0 | 0 | |
| 2-METHYLNAPHTHALENE | MG/KG | 1200 | 0 | 0 | |
| TPH C6-C35 | MG/KG | 120000 | 0 | 0 | |
| Mercury | MG/KG | 0.62 | 0 | 0 | |
| REACTIVE SULFIDE | MG/KG | 50 | 0 | 0 | |
| 2009 ANALYSIS | | | 0 | 0 | |

USecology

PROFILE#

090067188-0

WASTE/MATERIAL PROFILE FORM

THERMAL SUPPLEMENT

This form must be completed for all waste/material processed by US Ecology's Oil Reclamation Facility.

Oil bearing hezardous waste from petroleum refining, production or transportation practices will be recycled to generate a RCRA excluded fuel. Petroleum refining wastes/materials are those generated by processes engaged in producing hydrocarbon products such as gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, etc., through fractionation or straight distillation of crude oil, redistillation of unfinished petroleum derivatives, including cracking, gasification or other processes. This industry also produces aliphatic and aromatic chemicals as by-products. Waste/material generated through petroleum and natural gas production and transportation practices supporting this industry, such as crude petroleum extraction, transportation and bulk storage of petroleum products, natural gas extraction, transmission, distribution and storage will also be recycled to generate a RCRA excluded fuel.

Hazardous Secondary Materials (HSM) having similar chemical properties as petroleum refining wastes will also be recycled. Hazardous wastes not meeting the above criteria will be disposed, with the recovered oil being managed at an offsite RCRA TSDF

| A. GENERATOR INFO | RMATION | | | | |
|---|--|--|---------------------------|------------|--|
| Name of Originating Facility: | | | | | |
| Name of Generator: | | EPA Ge | nerator #: | | |
| Waste/Material Stream Name: PRIMARY SLUDGE | | | | | |
| B. CHARACTERISTICS | | | | | |
| Is the waste/material oil bear | is the waste/material oil bearing from Petroleum Refining, Production or Transportation practices (see description above)? | | | | |
| Is the waste/material RCRA excluded Hazardous Secondary Material (HSM)? | | | | | |
| For "characteristics byproducts" that are not excluded patroleum refining OBHW, are the oil constituents fuel themselves? | | | | | |
| The Petroleum Refining liste | d waste code associa | ted with waste is: | | | |
| x F037 F038 K052 K169 | K048 K170 | K049 | ing Listed Waste Code | : Applies | |
| If no Petroleum Refining Liste | d Waste Code applies | , please provide a detailed description of the process generating t | | | |
| *************************************** | | | | | |
| C. COMPOSITION | | | | | |
| PRIMARY | TYPICAL % | | | | |
| COMPONENTS | (Should total 100%) | PROPERTIES (wet weight I | basis) | | |
| Water | 50 | | ····· | | |
| Solids (excluding Organics/Oll/TPH) | 45 | PHYSICAL STATE | Heating Value Btu/Lb | | |
| Organics /Oll/TPH | 5 | X Solid Liquid Single Phased Multi-Phased | % of ASH | | |
| Specific Constituer | its (ppm) | Reclamation Facility Coordination Qu | estions | | |
| Halogens* | 0 | Yes X No Contains Non-Friable Debris Material > 2-Inch size | ? If yes, | % vol | |
| Mercury | 0 | Yes X No If Catalyst, does material posses self heating prope | erties? | | |
| SVM (Pb, Cd) | 0 | Yes X No Contains Bitumen / Asphalt / Tar > 1% (wt.)? If yes | , | % vol | |
| LVM (As, Be, Cr) | 0 | Yes X No Has the material been processed by a centrifuge p | rior to shipment? | | |
| Organic Chlorine from VOCs | 0 | Yes X No Contains fuel oxygenates? MTBE Et | hanol Other | ppm | |
| Suifides (total) | O | Yes X No Does the waste contain any surfactants? | | | |
| D. CERTIFICATION | | | | | |
| | | aste/material stream through analysis and/or process knowledge, and th ils form was completed in accordance with the instructions provided. | at all information provid | ied | |
| Printed Name | Signa | ture Title | | Date | |
| | | | | 01/16/2018 | |

^{*}Halogens: Total Halogens includes Fluorine, Chlorine, Bromline and Iodine. Report weight (ppm) as Halogens.

U.S. ECOLOGY TEXAS, INC.

PROFILE # 090067188-0

WASTE/MATERIAL PROFILE FORM

BENZENE WASTE OPERATIONS SUPPLEMENT (BWON 40 CFR Part 61 Subpart FF)

This form must be completed for all hazardous waste/material containing benzene originating at a Petroleum Refinery (SIC 2911), Chemical Manufacturing Plant (SIC 2800 thru 2899) or Coke by-Product Recovery Plant (SIC 3312).

| A. GENERATOR INFORMATION | | | | | | | | |
|--|---|------------------------------------|---|---------------------------------|--|--|--|--|
| Name of Originating Facility: | | | EPA Generator #: | | | | | |
| Waste/Material Common Name: PRIMARY SLU | DGE | | | | | | | |
| Process generating the waste/material: REFINE | RY WASTE WATER TANK CLEANO | JT | *************************************** | | | | | |
| Type of Facility: | X Refinery (SIC 2911) | Coke by-products rea (SIC 3312) | | l manufacturing) thru 2899) | | | | |
| Facility Total Annual Benzene Status (TAB): | < 1 Megagram (2,204 lbs) | ≥1 but <10 Megagran | m 🔃 ≥10 Meg | agram | | | | |
| Is the waste/material being transferred to US Ec | ology for offsite treatment compl | lance with 40 CFR Part 61. | 342(f)? X Yes | ☐ No* | | | | |
| By indicating "Yes", notice is provided that the waste/material referenced in this profile is subject to 40 CFR Part 61 Subpart FF (National Emission Standards for Benzene Waste Operations). All shipments under this profile are being transferred to US Ecology for the destruction or removal of benzene in accordance with 40 CFR Part 61.342 (C)(1)(i). | | | | | | | | |
| B. CHARACTERISTICS | | | | | | | | |
| The state of the s | The flow-weighted annual average benzene content by weight or process turnaround total concentration of this waste/material is: 4.35 ppmw (Benzene concentration data must be total concentration by weight, DO NOT USE TCLP CONCENTRATIONS.) | | | | | | | |
| The weighted average water content is? | X s10% | >10% | | | | | | |
| Is this Process Unit Turnaround waste/material? | Yes X | No | | | | | | |
| *Only if you answered "No" for offsite treatment | t compliance above, please suppl | y the following: | | | | | | |
| Range of benzene total concentration: | toppmw | | | | | | | |
| This waste/material is classified as: Pro- | cess wastewater stream | Product tank drawdown | | | | | | |
| Lan | dfill leachate | None of the three | | | | | | |
| C. CERTIFICATION | | | | | | | | |
| I certify under penalty of law that I am familiar v information provided is true, accurate, represen- with the instructions provided. | | | | at all | | | | |
| Print Name Signature | 2 | Title | | Date | | | | |
| | | | | 1/16/2018 | | | | |